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IS 4619 (1968): Grading for MAHUA kernels for oil milling
[FAD 13: Oils and Oilseeds]



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GRADING FOR
MAHUA KERNELS FOR OIL MILLING

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
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GRADING FOR MAHUA KERNELS FOR OIL MILLING

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Indian Standard

GRADING FOR MAHUA KERNELS FOR OIL MILLING

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 8 May 1968, after the draft finalized by the Oils and Oilseeds Sectional Committee had been approved by the Chemical Division Council and the Agricultural and Food Products Division Council.

0.2 *MAHUA*, also known as *MOWRAH*, is obtained from two trees; *Madhuca indica* J. F. Gmelin. Syn. *Mahuca latifolia* (Roxb.) Macbride and *Madhuca longifolia* (Koenig) Macbride, both belonging to the family Sapotaceæ. *Madhuca indica* grows chiefly in Madhya Pradesh, Uttar Pradesh, Bihar, Gujarat and in parts of West Bengal, Maharashtra, Andhra Pradesh and South India; while *Madhuca longifolia* grows only in South India. The oil derived from *MAHUA* kernels is extensively used in the manufacture of soaps and lubricating greases.

0.3 Fruits derived from *Madhuca indica* contain one to two seeds while those from *Madhuca longifolia* contain one to four seeds. Seeds of *Madhuca longifolia* are longer and less rounded than those derived from *Madhuca indica*.

0.4 Seeds derived from both varieties contain 70 to 75 percent kernel and 25 to 30 percent shell. *MAHUA* oil is obtained from *MAHUA* kernels.

0.5 The specification for the oil obtained from the *MAHUA* kernels is covered in IS : 545-1963* and IS : 3475-1966†.

0.6 *MAHUA* kernels contain saponin or saponin-like substances which are poisonous and as such the cake obtained is not used as cattle-feed. *MAHUA* cake has wormicidal properties. It is used as manure.

0.7 This standard contains clause 5.1 which calls for an agreement between the purchaser and the supplier.

0.8 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated,

*Specification for *MAHUA* oil (revised).

†Specification for solvent-extracted *MAHUA* (*MOWRAH*) oil.

expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of specified value in this standard.

1. SCOPE

1.1 This standard prescribes the methods of grading and the requirements for *MAHUA* kernels for oil milling, along with the relevant methods of sampling and test.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given under 2 of IS : 3579-1966† shall apply.

3. GRADES

3.1 The material shall be of three grades, namely, Grade 1, Grade 2, and Grade 3.

4. REQUIREMENTS

4.1 **Description** — The material shall be obtained from the seeds of the fruit borne on the trees *Madhuca indica* J. F. Gmelin. Syn. *Madhuca latifolia* (Roxb.) Macbride or *Madhuca longifolia* (Koenig) Macbride, both belonging to the family Sapotaceæ.

4.2 The material shall not emit foul odour.

4.3 The material shall also comply with the requirements given in Table 1.

5. PACKING

5.1 The material shall be supplied in clean, dry, sound, single, new or unmended B-Twill bags in merchantable condition, as agreed to between the purchaser and the supplier.

6. MARKING

6.1 The bags shall be marked with the name, grade and weight of the material, the year of crop and the source of supply.

7. SAMPLING

7.1 Representative samples for the purpose of these tests shall be drawn as prescribed in IS : 4115-1967‡.

*Rules for rounding off numerical values (revised).

†Methods of test for oilseeds.

‡Methods of sampling of oilseeds.

TABLE 1 REQUIREMENTS FOR MAHUA KERNELS FOR OIL MILLING

(Clause 4.3)

SL No.	CHARACTERISTIC	REQUIREMENT FOR			METHOD OF TEST, REF TO CL No. IN IS : 3579- 1966*
		Grade 1	Grade 2	Grade 3	
(1)	(2)	(3)	(4)	(5)	(6)
i)	Damaged kernels and weevil- led kernels, percent by weight, <i>Max</i>	0	2	4	4
ii)	Slightly damaged kernels, per- cent by weight, <i>Max</i>	2	6	16	
iii)	Shriveled and immature ker- nels, percent by weight, <i>Max</i>	2	6	16	
iv)	Split and broken kernels, per- cent by weight, <i>Max</i>	1	4	10	
v)	Impurities, percent by weight, <i>Max</i>	2	4	6	
vi)	Total of (i) to (v) above, <i>Max</i>	4	12	30	—
vii)	Moisture content, percent by weight, <i>Max</i>	10	10	10	5.1
viii)	Oil content (on moisture- free basis), percent by weight, <i>Min</i>	50	40	30	5.2
ix)	Acid value of extracted oil, <i>Max</i>	20	30	40	5.3

*Methods of test for oilseeds.

8. TESTS

8.1 Tests shall be carried out according to the methods prescribed in IS : 3579-1966*.

8.2 Quality of Reagents — Unless specified otherwise, pure chemicals and distilled water (see IS : 1070-1960†) shall be used in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

*Methods of test for oilseeds.

†Specification for water, distilled quality (revised).

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INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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